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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/674,402

01/02/2001

P.S. Ramanujam

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07/10/2006

MCDONNELL BOEHNEN HULBERT & BERGHOFF LLP
300 S. WACKER DRIVE
32ND FLOOR
CHICAGO, IL 60606

EXAMINER

CHU, KIM KWOK

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 07/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/674,402

Applicant(s)

RAMANUJAM ET AL.

Examiner

Kim-Kwok CHU

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on June 9, 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10/31/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. PCT/HU99/00035.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Remarks

1. Applicant's Amendment filed on June 09, 2006 has been fully considered.

The objected claim 11 with allowable subject matters is rejected because a newly found art of Chen (US Patent 5,257,133) and Tanaka (US Patent 5, 684,641). Chen discloses an aspherical objective lens and Tanaka discloses an aspherical objective lens made of plastics.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11 and 16 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Faruqi et al. (WO 97/02563) in view of Chen (U.S. Patent 5,257,133) and Tanaka et al. (U.S. Patent 5,684,641).

Faruqi teaches an apparatus for the writing and reading of a holographic recording medium very similar to that of the present invention. For example, Faruqi teaches the following:

(a) as in claim 11, the recording medium 25 is an optical card (Fig. 7; page 17, lines 8-10);

(b) as in claim 11, a recording medium 25 holding an/or positioning mechanism 30 (Figs. 4 and 5); page 15, lines 9 and 10);

(c) as in claim 11, movable or fixed read and write optics 16-24 (Fig. 4);

(d) as in claim 11, the write optics 16 comprising a polarized writing light source (Figs. 4 and 15; laser 1 is inherently a polarized light source and its light beam is further polarized by modulator 73); page 21, lines 13-15);

(e) as in claim 11, polarizing selector means 57 for separating an/or combining the reference beam and an object beam (Figs. 4 and 11; page 21, lines 27-31);

(f) as in claim 11, an object beam modulating means 24 (Fig. 4);

(g) as in claim 11, a polarization wave plate 56 (Fig. 11);

(h) as in claim 11, an objective lens 58 for imaging the object beam onto a recording layer (Fig. 18; page 21, last line, page 22, lines 1 and 2);

(i) as in claim 11, the read optics 17, 24 comprising a polarized reading light source 17 (Figs. 4 and 15);

(j) as in claim 11, the read optics includes a polarizing selector 57 and/or spatial filtering means 39, 42 for separating and/or combining a reference beam and an image beam (Figs. 6 and 11);

(k) as in claim 11, a light detector 44, 45 and an objective lens 58 for imaging the image beam onto the light detector (Figs. 4, 6 and 11);

(l) as in claim 11, the wavelength of the reading light source 17 is different from the writing light source 16 (Fig. 4; page 11, lines 23-25);

(m) as in claim 11, the read optics 17 comprise wavelength distortion correcting means 24, 27 for correcting the distortion of the reconstructed image caused by the difference in the wavelength of the reading and writing light (Figs. 4 and 11; signal processor 27 and optical head 24 reconstruct the stored image without error);

(n) as in claim 16, the read optics and the write optics have a common objective lens (Fig. 4; in optical head 24);

(o) as in claim 16, the common objective lens 58 is for the correction of the wavelength distortion (Fig. 4; optical head 24 reconstruct the stored image without error);

(p) as in claim 16, the objective lens 58 (in 24) has a central region and an annular region in its aperture (Fig. 4; inherent feature of an objective lens having a focusing region consists of a central region surrounded by an annular region);

(q) as in claim 16, the central region is tuned (utilized) to the wavelength of the writing light source 16 for focusing the write object beam onto the recording layer (Fig. 4);

(r) as in claim 16, the central region is tuned (utilized) the wavelength of the read light source 17 for imaging the read object beam onto the detector (Fig. 4); and

(s) as in claim 16, the annular region of the lens is tuned (utilized) to the wavelength of the read light source 17 for imaging the reflected object beam onto the detector (Fig. 4; the inherent objective lens with an outside region surrounding the inside region is used for focusing the write and read light beams).

However, Faruqi does not teach the following:

(a) as in claims 11 and 16, the wavelength distortion (chromatic or spherical aberration) correcting means is an aspherical plastic objective lens.

Chen teaches the following:

(a) a chromatic aberration caused by difference in wavelengths can be corrected by an aspherical objective lens (claim 4, column 7, lines 61-63).

Tanaka teaches the following:

(a) the aspherical objective lens is made of plastic (column 6, claim 3).

A focused light beam has an aberration affected by its wavelengths spectrum. In order to correct this kind of focusing distortion, it would have been obvious to one of ordinary skill in the art to replace Chen's aspherical objective lens with Faruqi's optical lens 58 to focus the write and read light beams, because Chen's aspherical lens compensate the chromatic and spherical aberrations of the focused light beams.

Furthermore, although both Faruqi and Chen do not disclose their objective lens are made of plastics, for a more cost effective optical head, it would have been obvious to one of ordinary skill in the art to replace the material of Chen's silicon aspherical lens with Tanaka's plastic aspherical lens, because a plastic lens is cheaper to make and lighter in weight than a silicon lens.

4. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kim CHU whose telephone number is (571) 272-7585 between 9:30 am to 6:00 pm, Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch, can be reached on (57) 272-7589.

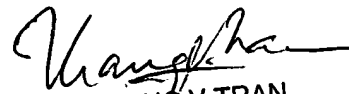
The fax number is:

(571) 273-8300 (for formal communications intended for entry. Or:

(571) 273-7585, (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9191 (toll free).


THANG V. TRAN
PRIMARY EXAMINER

Kim-Kwok CHU

lc 6/28/06

Examiner AU2627
June 29, 2006

(571) 272-7585